

WHAT IS CLAIMED IS:

1. An antibody which is capable of binding to a rapamycin compound.
2. The antibody of claim 1 which recognizes a specific region of said rapamycin compound.
3. The antibody of claim 1 wherein said rapamycin compound is selected from the group consisting of rapamycin, derivatives of rapamycin, metabolites of rapamycin and structurally similar compounds.
4. The antibody of claim 1 which has a greater affinity for rapamycin than a metabolite of rapamycin.
5. The antibody of claim 1 which has a greater affinity for a metabolite of rapamycin than unmetabolized rapamycin.
6. The antibody of claim 1 which is a polyclonal antibody or a monoclonal antibody.
7. The antibody of claim 1 which exhibits selectivity for rapamycin metabolite M1, M2, M3, M4 or M5.
8. The antibody of claim 1 which is selected from the group consisting of R-1-1, R-1-2, R-1-3, R-1-4, R-1-5, R-2-1, R-2-2, R-2-3,

R-2-4, R-2-5, R-2-6, R-3-1, R-3-2, R-4-1, R-4-7, R-5-3, R-6-1, R-6-2,
R-6-3 and R-6-4.

9. A hybridoma cell line that produces the antibody of claim 1.
10. An immunogen useful for effecting a specific immunogenic response to a rapamycin compound, said immunogen comprising a rapamycin compound, a linker arm molecule and a protein carrier.
11. The immunogen of claim 10, wherein said linker arm molecule is divinyl sulfone.
12. The immunogen of claim 10, wherein said protein carrier is selected from the group consisting of keyhole limpet hemocyanin and human serum albumin.
13. The immunogen of Claim 10 wherein said rapamycin compound is linked to said protein carrier at the 27, 31, 41 or 42 position of said rapamycin compound.
14. A method for producing an antibody which is capable of recognizing a specific region of a rapamycin compound comprising: a) administering an immunogen comprising a rapamycin compound, a linker arm molecule and a protein carrier to an animal so as to effect a specific immunogenic response to the rapamycin compound; b) recovering an antibody to said rapamycin compound from said animal; and c) identifying

the antibody binding region by measuring the reactivity of the antibody to at least one rapamycin compound.

15. The method of claim 14 wherein said linker arm molecule is divinyl sulfone.

16. The method of claim 14 wherein said protein carrier is selected from the group consisting of keyhole limpet hemocyanin and human serum albumin.

17. The method of claim 14 wherein said step of recovering said antibody comprises recovering at least one antibody producing cell from said animal, immortalizing said antibody producing cell, and, optionally, isolating a monoclonal antibody from said immortalized antibody producing cell.

18. The method of claim 14 wherein said rapamycin compound is linked to the carrier at the 27, 31, 41 or 42 position of said rapamycin compound.

19. The method of claim 14 wherein said animal is a mouse, rat, rabbit, chicken, guinea pig, donkey, pig, goat, sheep, cow, horse, dog, cat or monkey.

20. An antibody produced by the method of claim 14.

21. An antibody produced by the method of claim 17.

22. An immunoassay method for measuring the level of a rapamycin compound in a mammal, comprising: a) incubating a biological sample from said mammal with at least one antibody according to claim 1; and b) measuring the binding of said rapamycin compound to said antibody.

23. The immunoassay of claim 22 wherein said rapamycin compound is selected from the group consisting of rapamycin, derivatives of rapamycin, metabolites of rapamycin and structurally similar compounds.

24. The immunoassay of claim 22 wherein said rapamycin compound is a rapamycin metabolite selected from the group consisting of M1, M2, M3, M4 or M5.

25. The immunoassay of claim 22 wherein said antibody is selected from the group consisting of R-1-1, R-1-2, R-1-3, R-1-4, R-1-5, R-2-1, R-2-2, R-2-3, R-2-4, R-2-5, R-2-6, R-3-1, R-3-2, R-4-1, R-4-7, R-5-3, R-6-1, R-6-2, R-6-3 and R-6-4.

26. An immunoassay kit for measuring the level of a rapamycin compound in a sample, said kit comprising at least one antibody according to claim 1.

27. The kit of claim 26 wherein said sample is a biological sample.